



Andrea McNeill
Assistant Superintendent, Business Services
Fillmore Unified School District
627 Sespe Avenue,
Fillmore, CA 93015

January 25, 2024

**Subject: Second Engineering Geology and Seismology Review for
Fillmore High School – New Athletic Complex
555 Central Avenue, Fillmore, CA
CGS Application No. 03-CGS6144**

Dear Ms. McNeill:

In accordance with your request and transmittal of additional documents received on January 12, 2024, the California Geological Survey (CGS) has reviewed the engineering geology and seismology aspects of the consulting reports prepared for the subject project at Fillmore High School. It is our understanding that this project involves construction of a new one-story 45,000 square foot building with a gymnasium and supporting locker and team spaces. This review was performed in accordance with Title 24, California Code of Regulations, 2022 California Building Code (CBC) and followed CGS Note 48 guidelines. We reviewed the following report for this additional review of the project:

Response to the California Geological Survey (CGS), Engineering Geology and Seismology Review for Fillmore High School – New Athletic Complex dated December 21, 2023, 555 Central Avenue, Fillmore, Ventura County, California:
Gorian and Associates, Inc., 3595 Old Conejo Road, Thousand Oaks, CA 91320;
company Project No. 3242-0-0-101, report dated January 10, 2024, 4 pages, 1 attachment, 2 appendices.

In addition, we previously reviewed the following report:

Geotechnical Site Evaluation, Fillmore High School Sports Complex, 555 Central Avenue, Fillmore, California: Gorian and Associates, Inc., 3595 Old Conejo Road, Thousand Oaks, CA 91320; company Project No. 3242-0-0-100, report dated August 24, 2023, 18 pages, 4 figures, 3 appendices, 3 plates.

CGS previously submitted our findings regarding this project in a review letter dated December 21, 2023, in which the consultants were requested to reassess their characterization of liquefaction and related surface manifestation hazards. In addition, the consultants were requested to provide revised estimates of liquefaction settlement values.

Discussion of Liquefaction Analysis

Based on this second review, the consultants have revised their liquefaction analyses of their borings and cone penetrometer test (CPT) data using the reported historical-high groundwater depth for the site of 34 feet below ground surface. The consultants report a maximum **total seismic settlement of 3.6 inches with differential settlement of 1.48 inch over a horizontal distance of 56 feet**. The consultants also report that the potential for sand boils is considered negligible and ground rupture (fissuring) due to liquefaction should not occur within the area of the Athletic Complex since layers having a potential for liquefaction are 34 feet below the ground surface. The data presented appear to support this conclusion.

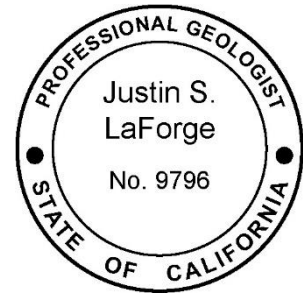
Based on the discussion above, the consultants have addressed our earlier concern regarding liquefaction, seismic settlement calculations, and related hazards. The consultants have now provided a thorough evaluation of engineering geology and seismology issues with respect to the proposed improvements.

In conclusion, ***the engineering geology and seismology issues at this site are adequately assessed in the referenced reports, and no further information is requested.*** If you have any further questions about this review letter, please contact the primary reviewer at Justin.LaForge@conservation.ca.gov.

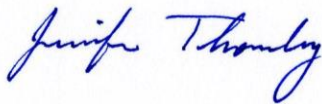
Respectfully submitted,



Justin LaForge
Engineering Geologist
PG 9796



Concur:



Jennifer Thornburg
Senior Engineering Geologist
PG 5476, CEG 2240



Copies to:

William F. Cavan, Jr., *Certified Engineering Geologist*, and Jerome J. Blunck, *Registered Geotechnical Engineer*

Gorian and Associates, Inc., 3595 Old Conejo Road, Thousand Oaks, CA 91320

Joshua Smith, *Architect*

Westgroup Designs, 19900 MacArthur Blvd #1000, Irvine, CA 92612

Douglas Humphrey, *Regional Manager*

Division of State Architect, 355 South Grand Avenue, Suite 2100, Los Angeles, CA 90071